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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/648,372	08/25/2000	Masahiro Yamamoto	4208.0083	5413

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EXAMINER
BALI, VIKKRAM

ART UNIT	PAPER NUMBER
2623	

DATE MAILED: 08/13/2003

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Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/648,372

Applicant(s)

YAMAMOTO, MASAHIRO

Examiner

Vikkram Bali

Art Unit

2623

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is FINAL.
- 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-19 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 8,9.

- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

**DETAILED ACTION**

***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

1. Claims 1, 2, 17-19 are rejected under 35 U.S.C. 102(b) as being anticipated by Emery et al (US 5563702).

With respect to claim 1, Emery discloses a pattern inspection apparatus having a storage means, inputting means, inspection means for inspection ...comparing edge..., and outputting means, (see figure 1) as claimed.

With respect to claim 2, he further discloses inspecting means conducts matching ...reference ... by to be inspected ..., (see col. 7, lines 8-10) as claimed.

With respect to claim 17, he further discloses the profile on pattern image to be inspected, detects predetermined points ...assumes the curve to be an edge ..., (see col. 16, lines 5-20) as claimed.

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Claims 18 and 19 are rejected for the same reasons as set forth for the claim 1, because claims 18 and 19 are the method and the software claims claiming similar subject as claimed in claim 1 as apparatus.

***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 3-4, and 7-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Emery et al (US 5563702).

With respect to claims 3-4 and 7-16 Emery discloses the invention substantially as disclosed and as described in claim 1 and 2. However, he fails to explicitly disclose the edge detection features as disclose in claims 3-4 and 7-16, as dilation, weighting, correspondence assumption. But Emery in col. 28 line 50 through col. 30 line 25 states different embodiments that can be developed using the inspection system disclose in the reference that includes the neural network, classification, and col. 28, lines 25-49 states the dilation process for the purpose of edge detection. Therefore, it would have been obvious to one ordinary skilled in the art at the time of invention to simply take the

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suggestions of the Emery and develop another inspection system that carry out the inspection of the pattern using the known edge detection system.

4. Claims 5-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Emery et al (US 5563702) in view of Aoyama (US 5398292).

With respect to claims 3-4 and 7-16 Emery discloses the invention substantially as disclosed and as described in claim 1 and 2. However, he fails to explicitly disclose the sum of product process. Aoyama disclose the sum of product process in doing the mask inspection. Therefore, it would have been obvious to one ordinary skilled in the art at the time of invention to combine the two references as they are analogous because they are solving the similar problem of mask inspection. And using the sum of product process in the Emery process of inspection provides a edge detection process that is capable of determining the direction of each edge with high accuracy without being affected by noise (see col. 2, lines 58-62 of Aoyama).

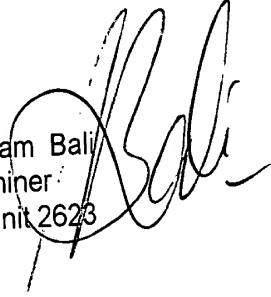
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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Vikkram Bali whose telephone number is 703.305.4510. The examiner can normally be reached on 7:30 AM - 4:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amelia Au can be reached on 703.308.6604. The fax phone numbers for the organization where this application or proceeding is assigned are 703.872.9314 for regular communications and 703.872.9314 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703.306.0377.

Vikkram Bali  
Examiner  
Art Unit 2623



vb  
August 8, 2003